

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CANNON 15-3 PAD

P_Cannon 10-3

P_Cannon 10-3

Plan: PLAN #1 8-18-10 RHS

Standard Planning Report

18 August, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Cannon 10-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4853' & RKB 15' @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4853' & RKB 15' @ 4868.00ft (ASSUMED)
Site:	WELD_CANNON 15-3 PAD	North Reference:	True
Well:	P_Cannon 10-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Cannon 10-3		
Design:	PLAN #1 8-18-10 RHS		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_CANNON 15-3 PAD, SECTION 3 T2N R65W			
Site Position:		Northing:	1,302,962.02 usft	Latitude:	40° 9' 42.790 N
From:	Lat/Long	Easting:	3,238,104.66 usft	Longitude:	104° 38' 53.005 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.55 °

Well	P_Cannon 10-3, 507' FSL 2132' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,302,962.02 usft	Latitude:	40° 9' 42.790 N
	+E/-W	0.00 ft	Easting:	3,238,104.66 usft	Longitude:	104° 38' 53.005 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,853.00 ft

Wellbore	P_Cannon 10-3				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/18/2010	8.89	66.91	53,106

Design	PLAN #1 8-18-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	1.10

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,907.35	21.15	1.10	1,883.51	192.89	3.70	2.00	2.00	0.00	1.10	
5,038.17	21.15	1.10	4,803.49	1,322.16	25.36	0.00	0.00	0.00	0.00	
6,095.52	0.00	0.00	5,837.00	1,515.05	29.07	2.00	-2.00	0.00	180.00	
7,549.52	0.00	0.00	7,291.00	1,515.05	29.07	0.00	0.00	0.00	0.00	PBHL_Cannon 10-3(2

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Cannon 10-3
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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4853' & RKB 15' @ 4868.00ft (ASSUMED)
Site:	WELD_CANNON 15-3 PAD	North Reference:	True
Well:	P_Cannon 10-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Cannon 10-3		
Design:	PLAN #1 8-18-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
8 5/8"									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	1.00	1.10	900.00	0.44	0.01	0.44	2.00	2.00	0.00
1,000.00	3.00	1.10	999.93	3.93	0.08	3.93	2.00	2.00	0.00
1,100.00	5.00	1.10	1,099.68	10.90	0.21	10.90	2.00	2.00	0.00
1,200.00	7.00	1.10	1,199.13	21.35	0.41	21.35	2.00	2.00	0.00
1,300.00	9.00	1.10	1,298.15	35.26	0.68	35.27	2.00	2.00	0.00
1,400.00	11.00	1.10	1,396.63	52.62	1.01	52.63	2.00	2.00	0.00
1,500.00	13.00	1.10	1,494.44	73.41	1.41	73.42	2.00	2.00	0.00
1,600.00	15.00	1.10	1,591.46	97.60	1.87	97.62	2.00	2.00	0.00
1,700.00	17.00	1.10	1,687.58	125.15	2.40	125.18	2.00	2.00	0.00
1,800.00	19.00	1.10	1,782.68	156.05	2.99	156.08	2.00	2.00	0.00
1,900.00	21.00	1.10	1,876.65	190.24	3.65	190.28	2.00	2.00	0.00
1,907.35	21.15	1.10	1,883.51	192.89	3.70	192.92	2.00	2.00	0.00
Start 3130.82 hold at 1907.35 MD									
2,000.00	21.15	1.10	1,969.92	226.30	4.34	226.35	0.00	0.00	0.00
2,100.00	21.15	1.10	2,063.18	262.37	5.03	262.42	0.00	0.00	0.00
2,200.00	21.15	1.10	2,156.45	298.44	5.73	298.50	0.00	0.00	0.00
2,300.00	21.15	1.10	2,249.72	334.51	6.42	334.57	0.00	0.00	0.00
2,400.00	21.15	1.10	2,342.98	370.58	7.11	370.65	0.00	0.00	0.00
2,500.00	21.15	1.10	2,436.25	406.65	7.80	406.73	0.00	0.00	0.00
2,600.00	21.15	1.10	2,529.51	442.72	8.49	442.80	0.00	0.00	0.00
2,700.00	21.15	1.10	2,622.78	478.79	9.19	478.88	0.00	0.00	0.00
2,800.00	21.15	1.10	2,716.04	514.86	9.88	514.96	0.00	0.00	0.00
2,900.00	21.15	1.10	2,809.31	550.93	10.57	551.03	0.00	0.00	0.00
3,000.00	21.15	1.10	2,902.58	587.00	11.26	587.11	0.00	0.00	0.00
3,100.00	21.15	1.10	2,995.84	623.07	11.95	623.18	0.00	0.00	0.00
3,200.00	21.15	1.10	3,089.11	659.14	12.65	659.26	0.00	0.00	0.00
3,300.00	21.15	1.10	3,182.37	695.21	13.34	695.34	0.00	0.00	0.00
3,400.00	21.15	1.10	3,275.64	731.28	14.03	731.41	0.00	0.00	0.00
3,500.00	21.15	1.10	3,368.90	767.35	14.72	767.49	0.00	0.00	0.00
3,600.00	21.15	1.10	3,462.17	803.42	15.41	803.57	0.00	0.00	0.00
3,700.00	21.15	1.10	3,555.44	839.49	16.10	839.64	0.00	0.00	0.00
3,800.00	21.15	1.10	3,648.70	875.56	16.80	875.72	0.00	0.00	0.00
3,900.00	21.15	1.10	3,741.97	911.63	17.49	911.80	0.00	0.00	0.00
4,000.00	21.15	1.10	3,835.23	947.70	18.18	947.87	0.00	0.00	0.00
4,082.31	21.15	1.10	3,912.00	977.39	18.75	977.57	0.00	0.00	0.00
PARKMAN									
4,100.00	21.15	1.10	3,928.50	983.77	18.87	983.95	0.00	0.00	0.00
4,200.00	21.15	1.10	4,021.76	1,019.84	19.56	1,020.02	0.00	0.00	0.00
4,300.00	21.15	1.10	4,115.03	1,055.91	20.26	1,056.10	0.00	0.00	0.00
4,400.00	21.15	1.10	4,208.30	1,091.98	20.95	1,092.18	0.00	0.00	0.00

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Site:	WELD_CANNON 15-3 PAD	North Reference:	True
Well:	P_Cannon 10-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Cannon 10-3		
Design:	PLAN #1 8-18-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,500.00	21.15	1.10	4,301.56	1,128.05	21.64	1,128.25	0.00	0.00	0.00	
4,600.00	21.15	1.10	4,394.83	1,164.12	22.33	1,164.33	0.00	0.00	0.00	
4,608.76	21.15	1.10	4,403.00	1,167.28	22.39	1,167.49	0.00	0.00	0.00	
SUSSEX										
4,700.00	21.15	1.10	4,488.09	1,200.18	23.02	1,200.41	0.00	0.00	0.00	
4,800.00	21.15	1.10	4,581.36	1,236.25	23.72	1,236.48	0.00	0.00	0.00	
4,900.00	21.15	1.10	4,674.62	1,272.32	24.41	1,272.56	0.00	0.00	0.00	
5,000.00	21.15	1.10	4,767.89	1,308.39	25.10	1,308.63	0.00	0.00	0.00	
5,038.17	21.15	1.10	4,803.49	1,322.16	25.36	1,322.41	0.00	0.00	0.00	
Start Drop -2.00										
5,082.55	20.26	1.10	4,845.00	1,337.85	25.67	1,338.09	2.00	-2.00	0.00	
SHANNON										
5,100.00	19.91	1.10	4,861.39	1,343.84	25.78	1,344.09	2.00	-2.00	0.00	
5,200.00	17.91	1.10	4,955.99	1,376.24	26.40	1,376.49	2.00	-2.00	0.00	
5,300.00	15.91	1.10	5,051.66	1,405.32	26.96	1,405.58	2.00	-2.00	0.00	
5,400.00	13.91	1.10	5,148.29	1,431.05	27.45	1,431.31	2.00	-2.00	0.00	
5,500.00	11.91	1.10	5,245.76	1,453.38	27.88	1,453.65	2.00	-2.00	0.00	
5,600.00	9.91	1.10	5,343.94	1,472.31	28.25	1,472.58	2.00	-2.00	0.00	
5,700.00	7.91	1.10	5,442.73	1,487.79	28.54	1,488.07	2.00	-2.00	0.00	
5,800.00	5.91	1.10	5,542.00	1,499.82	28.77	1,500.10	2.00	-2.00	0.00	
5,900.00	3.91	1.10	5,641.63	1,508.38	28.94	1,508.66	2.00	-2.00	0.00	
6,000.00	1.91	1.10	5,741.49	1,513.46	29.03	1,513.73	2.00	-2.00	0.00	
6,095.52	0.00	0.00	5,837.00	1,515.05	29.07	1,515.33	2.00	-2.00	-1.15	
Start 1454.00 hold at 6095.52 MD										
6,100.00	0.00	0.00	5,841.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,200.00	0.00	0.00	5,941.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,041.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,141.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,241.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,341.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,441.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,541.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,641.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,741.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,095.52	0.00	0.00	6,837.00	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
NIO										
7,100.00	0.00	0.00	6,841.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,941.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,041.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,389.52	0.00	0.00	7,131.00	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
CODELL										
7,400.00	0.00	0.00	7,141.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,475.52	0.00	0.00	7,217.00	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
GREENHORN										
7,500.00	0.00	0.00	7,241.48	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
7,549.52	0.00	0.00	7,291.00	1,515.05	29.07	1,515.33	0.00	0.00	0.00	
PBHL_Cannon 10-3(2022' FSL 2118' FEL)										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Cannon 10-3
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4853' & RKB 15' @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4853' & RKB 15' @ 4868.00ft (ASSUMED)
Site:	WELD_CANNON 15-3 PAD	North Reference:	True
Well:	P_Cannon 10-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Cannon 10-3		
Design:	PLAN #1 8-18-10 RHS		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_Cannon 10-3(202 - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,291.00	1,515.05	29.07	1,304,477.27	3,238,119.17	40° 9' 57.762 N	104° 38' 52.631 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
700.00	700.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,082.31	3,894.00	PARKMAN				
4,608.76	4,385.00	SUSSEX				
5,082.55	4,827.00	SHANNON				
7,095.52	6,819.00	NIO				
7,389.52	7,113.00	CODELL				
7,475.52	7,199.00	GREENHORN				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
850.00	850.00	0.00	0.00	Start Build 2.00	
1,907.35	1,883.51	192.89	3.70	Start 3130.82 hold at 1907.35 MD	
5,038.17	4,803.49	1,322.16	25.36	Start Drop -2.00	
6,095.52	5,837.00	1,515.05	29.07	Start 1454.00 hold at 6095.52 MD	
7,549.52	7,291.00	1,515.05	29.07	TD at 7549.52	